Claims

1. A method for analyzing organic adsorbent layers on a
   substrate, the method comprising the following steps:
   - providing a substrate with a surface, the substrate
   having an index of refraction equal or close to the index
   of refraction of the organic adsorbent to be analyzed   ;
   - applying a layer system to the surface of the substrate,
   the layer system comprising at least one layer with index
   of refraction significantly different from the index of
   refraction of the biological material;
   - applying the organic adsorbent layer on top of the layer
   system
   - act polarized light upon the substrate
   - detect in reflection and/or transmission the change of
   polarization characteristics of the light acted upon the
   substrate.

2. Method according to claim 1 comprising the step of
   detecting the reflection and/or transmission amplitude of
   the light acted upon the substrate.

3. Method according to one of the previous claims comprising
   the step of selecting the substrate material out of the
   group of glass and plastic materials.

4. A method according to one of the previous claims
   characterized in that said at least one layer is chosen out
   of the group of Ta_2O_5, Nb_2O_5, TiO_2, HfO_2, ZrO_2 MgF_2.

5. Method according to one of the previous claims comprising
   the step of optimizing the layer thickness distribution of
   the layer sytem in order to provide optical response
   allowing for desired, preferably maximum sensitivity with
   respect to changes in the adsorbent layer to be analyzed.

6. Method according to one of the previous claims comprising the step of selecting SiO_2 as top layer forming the interface to a contact layer and/or the adsorbent layer to be analyzed.

7. Method according to one of the previous claims comprising the steps of applying a structured layer system thereby creating multiple subareas with maximum sensitivity for different adsorbent layer characteristics.

8. Method of performing imaging ellipsometry comprising the steps of one of the methods according to one of the previous claims.